

Role of purinoceptors and npy-receptors in the regulation of rat heart in postnatal ontogenesis

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Abstract

© 2016, International Journal of Pharmacy and Technology. All rights reserved. ATP and neuropeptide Y are present in central and peripheral nervous systems. Being in neurons in conjunction with noradrenaline and acetylcholine they act on own receptors, strengthening or weakening major mediator effects. ATP, neuropeptide Y and their analogues were studied on the myocardial contractility of atria and ventricles of rats during an early postnatal ontogenesis. ATP and its persistent analogues increase the strength of myocardial contractions, acting through its own P2 receptors. The positive inotropic effect confirms their participation in the myocardium contraction among growing animals by the addition of NPY receptor agonists. During the early stages of postnatal ontogenesis, in terms of sympathetic and parasympathetic regulatory effects on heart immaturity, its receptor system, different mechanisms of cotransmitter influence on the effects of the major mediators are possible.

Keywords

ATP, Contractility, Neuropeptide Y, Ontogenesis, Rat